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• pressures pulses fast shocks

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### **RAPID INTENSIFICATION AND PROPAGATION OF THE DAYSIDE AURORA: LARGE SCALE INTERPLANETARY PRESSURE PULSES (FAST SHOCKS)**

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We study cases of abrupt dayside auroral brightenings and very fast auroral propagation using the POLAR UV imaging data. The auroral brightenings are associated with the arrival of interplanetary shocks/pressure waves. The speed of the auroral propagation corresponds extremely well to the solar wind downstream flow. Our model assumes that the shock /pressure wave compresses the low latitude boundary layer (LLBL) magnetospheric fields and plasma contained thereon. This plasma compression leads to the loss cone instability, wave-particle interactions and concomitant particle loss into the ionosphere. Several implications for this model are discussed.

#### **Submittal Information**

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